

Abstract

A device reader having a multiplex illuminator, the illuminator, and methods for reading deflection of a large number of microcantilevers are provided. The illuminator includes a micro-optical subassembly for illuminating cantilevers (illuminator) that uses a plurality of VCSELs for
5 generating an array of electromagnetic beams, and focuses the beams on the cantilevers. Deflection of the cantilevers causes a change in angle of the beams reflected from the cantilevers, which is recorded by a plurality of position sensitive devices.